

# BURNING QUESTIONS

*Assessing the needs of the  
Union Grove-Yorkville Fire Department*



WISCONSIN

**POLICY FORUM**

## ABOUT THE WISCONSIN POLICY FORUM

The Wisconsin Policy Forum was created on January 1, 2018, by the merger of the Milwaukee-based Public Policy Forum and the Madison-based Wisconsin Taxpayers Alliance. Throughout their lengthy histories, both organizations engaged in nonpartisan, independent research and civic education on fiscal and policy issues affecting state and local governments and school districts in Wisconsin. WPF is committed to those same activities and that spirit of nonpartisanship.

## PREFACE AND ACKNOWLEDGMENTS

This report was undertaken to provide policymakers and citizens in Union Grove, Yorkville, and adjacent communities with information on the current state of fire and EMS service provision by the Union Grove-Yorkville Fire Department (UGYFD) and comparison with peer departments as context for how emerging challenges might be addressed. The intent was to lay out programmatic data, illustrate key challenges, and discuss options for improvement, but not to make recommendations on the future of fire and EMS services for these communities.

Report authors would like to thank the UGYFD chief and administrative staff, the administrators from the two villages, and chiefs from the six peer departments included in the study for their assistance in providing information and for patiently answering our questions.

In addition, we wish to acknowledge and thank the Union Grove-Yorkville Fire Commission and the villages of Union Grove and Yorkville for jointly commissioning and underwriting the cost of this research.



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Fire Department*

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# INTRODUCTION

The Union Grove-Yorkville Fire Department (UGYFD), located in western Racine County, is a consolidated department that serves the villages of Union Grove and Yorkville. The department was founded in 1895 in Union Grove and, according to its website, became a jointly supported department in 1955 with the establishment of the Union Grove-Yorkville Fire Commission. Today, the department continues to be governed by that commission, which consists of three representatives from each village and one elected member of the department.

The UGYFD is staffed primarily by volunteer members who receive compensation only when called in to respond to a call or for time spent on training and education. Like many smaller fire and emergency medical services (EMS) agencies in Wisconsin that maintain similar paid-on-call (POC) staffing models, it is now struggling to maintain services in the face of increasing call volumes and increasing difficulty in recruiting and retaining part-time volunteers.

The Foxconn industrial development is located immediately to the east of Yorkville. While the size of the Foxconn project has diminished considerably since its original proposal in 2017, both villages anticipate considerable development pressure over the next 20 to 30 years and have adopted plans to allow for substantial residential, commercial, and industrial growth. This anticipated development – and a corresponding subsequent increase in call volumes – presents another challenge for UGYFD as it considers its future service model.

In this report, at the request of village and fire commission leaders, the Wisconsin Policy Forum seeks to provide the department's stakeholders with knowledge that can be used to establish a path forward. We do so by evaluating the department's current service and staffing model and challenges that have recently emerged. We then compare UGYFD's staffing, spending, and response capacity to those of six peer departments that serve areas with similar populations and call volumes as a means of providing further insight into the possible need for Union Grove and Yorkville leaders to adjust the existing model.

To carry out the study, we collected and synthesized data on fire and EMS finances, staffing, equipment/apparatus, fire station size and characteristics, and operations from the UGYFD as well as from the six carefully selected peer departments. We use these data sources as the basis for developing insights and policy options for UGYFD and village leaders that we hope will assist their decision-making as they consider the future of fire and EMS in their communities.



# DEMOGRAPHICS

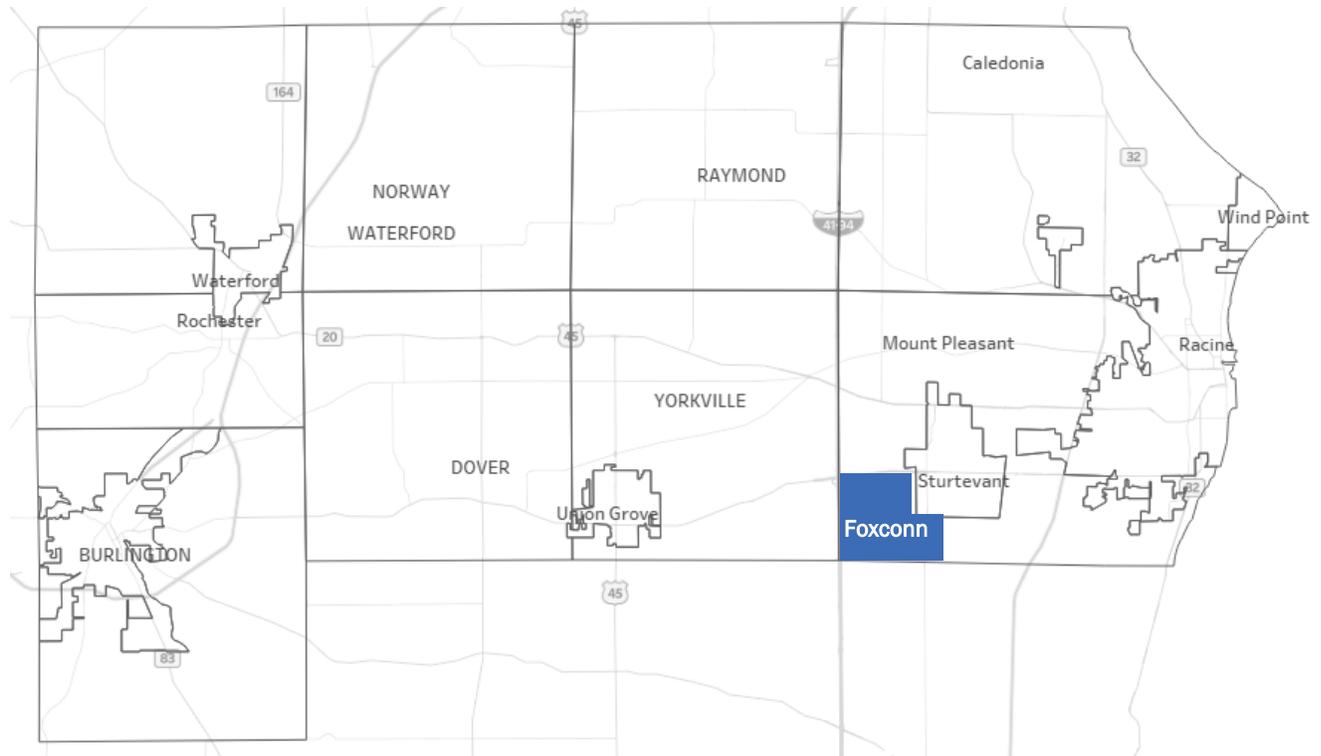
This section reviews the basic demographics of the UGYFD service area, focusing particularly on factors that relate to fire and EMS calls for service.

## Population characteristics

Union Grove is a village of 2.6 square miles that was home to 5,227 people in 2020 per the Wisconsin Department of Administration. It is surrounded by the Village of Yorkville, incorporated in 2018 (prior to that time it was a town), which is primarily rural/agricultural with a population of 3,147 spread over 33.6 square miles. Besides a notable difference in population density, Yorkville's population is older, its property values are generally higher, and it has a larger base of commercial and industrial development than Union Grove.

As shown in **Map 1**, Union Grove and Yorkville are in close proximity to the Foxconn development in neighboring Mount Pleasant, which as noted above may have implications for future growth and future fire and EMS capacity needs.

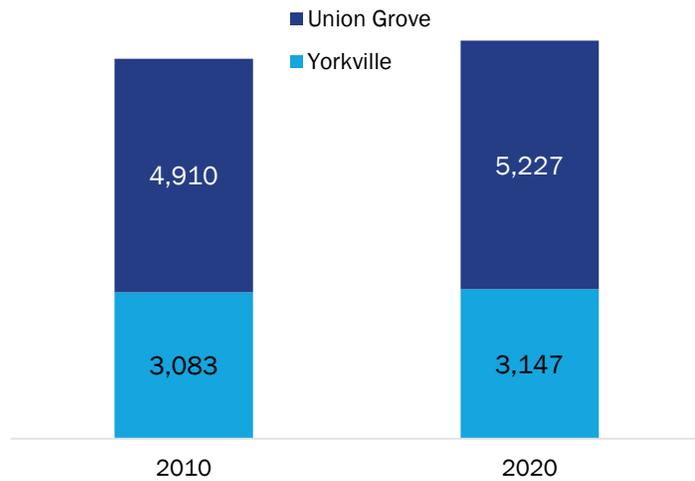
**Map 1: Union Grove, Yorkville, and surrounding area**



**Chart 1** shows that the combined populations of Union Grove and Yorkville grew by 381 people, or 4.8%, over the past decade. That population growth was centered primarily in Union Grove, which grew by 317 people (6.5%).

In considering demand for EMS in particular, the average age of the population served is particularly relevant given that people over age 65 are the largest users of EMS. According to the U.S. Census Bureau's 2018 American Community Survey, Yorkville's population is considerably older than Union Grove's, as shown in **Table 1**.

**Chart 1: Village population, 2010 vs. 2020**



Source: State of WI, Department of Revenue

**Table 1: Age characteristics**

	% over 65	Median age
Union Grove	16.9%	37.2
Yorkville	26.0%	47.0

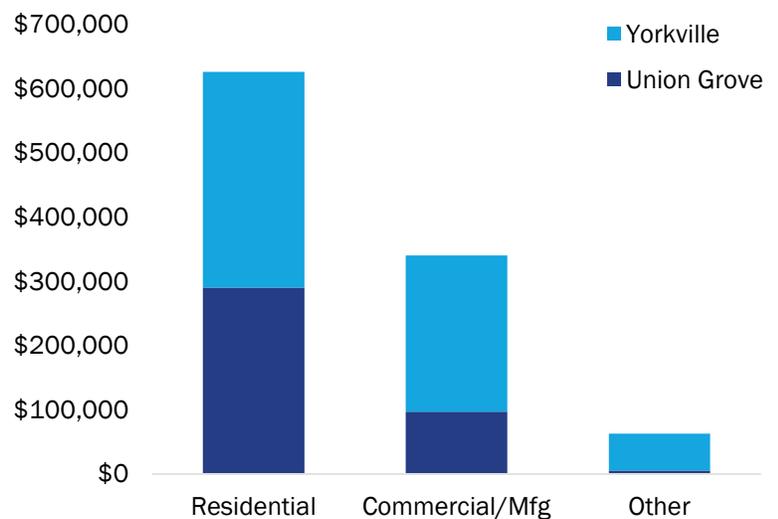
Source: US Census Bureau, 2018 American Community Survey

## Property values

Equalized value reflects total property values in each municipality<sup>1</sup> and can be an indicator of ability to pay for municipal services. According to the Wisconsin Department of Revenue (DOR), Yorkville's equalized value in 2020 was \$198,150 per capita, as compared to \$76,100 in Union Grove.

DOR data on equalized value also show that Yorkville has a larger base of commercial and industrial uses than Union Grove, as shown in **Chart 2**. In 2020, for every dollar of residential value, Yorkville had \$0.83 in non-residential value while the ratio in Union Grove was much lower at \$0.33. Also, while Yorkville only

**Chart 2: 2020 equalized property values by type of property**



<sup>1</sup> Equalized value is an estimate of current market value by class of property and by municipality. Equalized value is reported by the Department of Revenue to account for differences between assessment practices and thereby fairly apportion tax burdens of counties and other taxing entities that encompass more than one municipality.

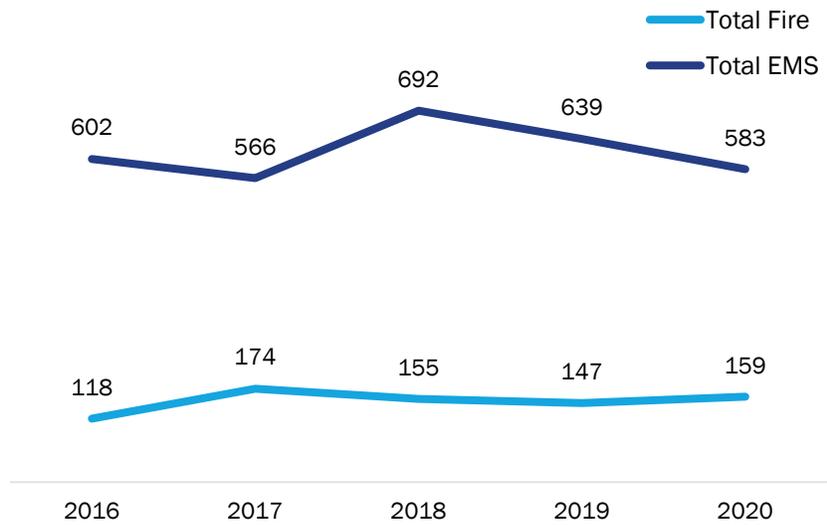


comprises about 38% of UGFYD's service population, it represents more than half of combined residential value and about three quarters of commercial and manufacturing value.

In terms of impact on fire and EMS services, a residential neighborhood generally will generate a higher rate of calls for service than an industrial park or shopping mall, although calls for service depend on many factors

such as population age, income, housing density, etc. On the other hand, certain industrial uses can present unique firefighting and rescue challenges and may require specialized equipment and training.

Chart 3: UGFYD calls for service, 2016-2020



# DEMAND FOR SERVICE

Assessing the demand for future fire and EMS services and the service capacity required to meet that demand requires examination of both recent trends and future population and development projections. In this section, we briefly conduct such an examination.

## Recent call volumes

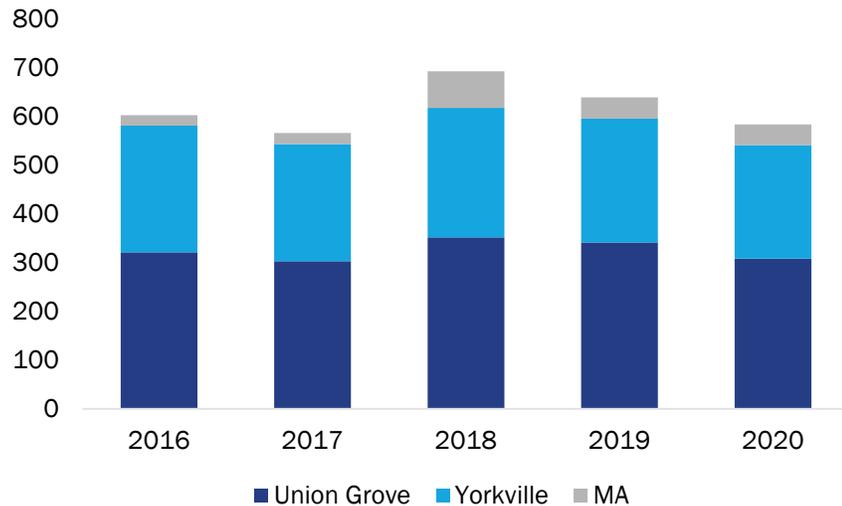
**Chart 3** shows trends in fire and EMS calls for service between 2016 and 2020. Typical of most fire and EMS Departments, EMS calls account for roughly 80 % of total calls for the UGYFD. UGYFD is licensed to provide EMS at a paramedic level of service.

While total calls for service increased steadily between 2016 and 2018, that trend has reversed in 2019 and 2020. The effects of the coronavirus pandemic have reduced calls for service across the state, however, which may make 2020 an outlier. In fact, so far in 2021, calls volumes are rebounding to higher levels. Whereas the department received an average of just over two calls per day between 2018 and 2020, the chief reports that calls in 2021 have been averaging 2.77 per day (382 calls received by May 18).

Additional perspective on the department’s call volume can be gained by breaking down calls by community. As shown in **Chart 4**, a little more than half of UGYFD’s EMS calls originate in Union Grove, while closer to 40% originate in Yorkville. Mutual aid calls comprise the balance and reflect the department’s close working relationship with neighboring departments in Kansasville and Raymond and its mutual aid responsibilities for certain vehicular accidents on I-94.<sup>2</sup>

A useful comparative measure for service demand is the ratio of EMS calls to total population served. This ratio for the UGYFD in 2020 was 71 calls per 1,000 service population, which is consistent with other areas studied by the Forum. Generally, areas

**Chart 4: EMS calls by originating location, 2016-2020**



<sup>2</sup> UGYFD maintains automatic aid agreements with the Kansasville and Raymond fire departments for any structure fire response and the department also shares a ladder truck with the Kansasville department. Also, the Union Grove-Yorkville and Raymond departments provide automatic mutual aid for any motor vehicle accident on Interstate 94 between mile marker 329.0 and 333.0.



servicing older populations have a higher ratio of calls; that is the case in the UGYFD with a higher rate of calls in Yorkville (80 calls/1,000 population) than in Union Grove (66 calls/1,000 population).

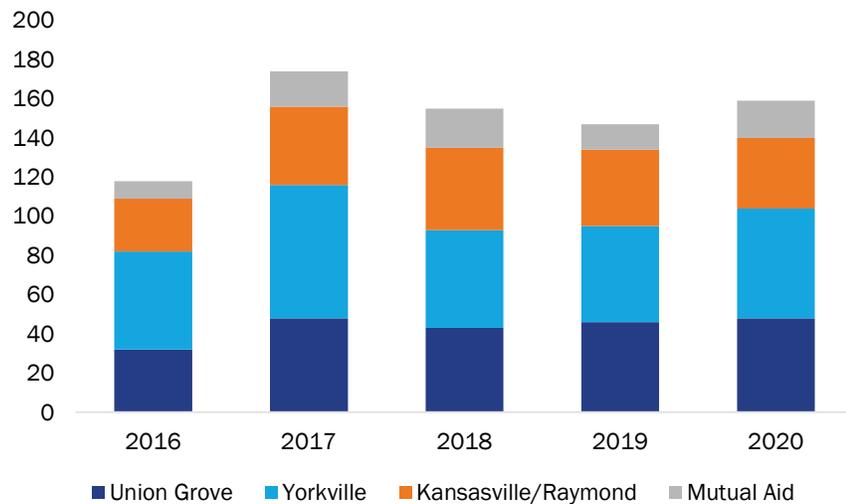
The location of nursing homes and other senior residences also can influence the rate of EMS calls. According to state data, one senior residence is located in the service area (Oak Ridge Care Center in Union Grove) while WI Veterans Home is located in the nearby Town of Dover (an area served by the Kansasville department but subject to mutual aid from UGYFD).

**Chart 5** shows fire calls by location for 2016 through 2020. As described above, UGYFD has an automatic aid agreement with the Kansasville and Raymond fire departments. Calls to which UGYFD responded from those two municipalities are shown separately from other mutual aid responses.

Over the five-year period, calls stemming from the automatic aid agreement with Kansasville and Raymond represented 24% of all fire calls, while

all mutual aid calls represented about one third of fire calls. Based on our research on other fire departments, this is a relatively high rate of mutual aid provided. It reflects the automatic aid agreements that are in place, which are necessitated by the small size and volunteer staffing models of the respective departments and the need to consequently work with neighboring jurisdictions when assembling large crews for structure fires.

**Chart 5: Fire calls by originating location, 2016-2020**



This is not necessarily a cause for concern assuming that UGYFD is receiving a similar level of mutual aid from surrounding departments. However, given the high level of integration between the three departments (at least in terms of fire service), it does suggest potential for exploring the possibility of a merged department.

Detailed data provided by UGYFD also show that the ratio of calls cancelled during transport to the scene is much higher for mutual aid than for service calls originating in Union Grove or Yorkville (**Table 2**). Department officials may wish to examine why this is occurring and whether cancelled calls might be curtailed to preserve resources.

**Table 2: Percentage of fire calls cancelled en-route, 2020**

Municipality	Fire Calls Cancelled
Union Grove	8.9%
Yorkville	18.0%
Kansasville	39.4%
Raymond	50.6%
MA	20.0%
South Shore	74.7%



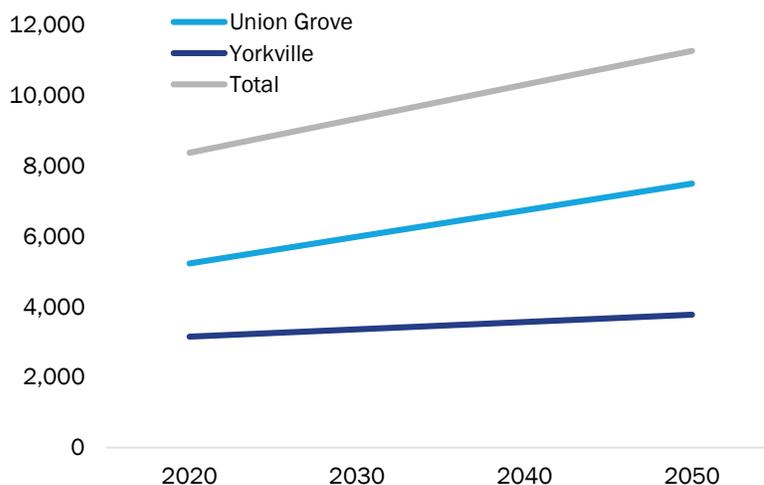
## Future calls for service

While population growth in Union Grove and Yorkville over the past decade has been relatively slow, the impact of Foxconn and its ancillary development may accelerate that growth. As a result, both municipalities have adopted plans to manage it. In 2008, Union Grove expanded its sewer area to the north to accommodate new residential development. Yorkville incorporated as a village in 2018 and has adopted both a comprehensive plan and an I-94 Corridor master plan.

Three ongoing or recently completed projects – Canopy Hill, Dunham Grove, and the Granary townhomes – represent a total of 572 units in Union Grove. An additional 3.9 acres are set aside in the Canopy Hill project for future senior living units, but the exact number of units has not been determined. According to planning documents, the estimated build-out capacity of Union Grove if all vacant land were developed is an additional 716 single family units and an additional 68 condominium units and 60 multi-family units.<sup>3</sup> Based on current estimates of persons per household, this new development would result in a population increase of 2,265, or 43%. Some employment growth also will occur concurrently with increasing population.

While development plans in Yorkville center on commercial and industrial development along I-94, the village is considering a 15-unit residential subdivision. This suggests that combined growth in all sectors in Yorkville will be higher than the trend from 2010 to 2020. For the purposes of this analysis, we project an overall growth in Yorkville’s population of 626, or 20%.<sup>4</sup>

**Chart 6: 2020-2050 population growth estimates**



**Chart 6** shows population estimates for each village and total population growth for the combined area served by the UGYFD. Service population is projected to increase by 2,891, or 35% over the projection period. Based on these population projections and current rates of EMS calls per 1,000 residents, calls are projected to reach 928 in 2050 compared to the 2020 total of 583. If we assume that fire calls increase at a rate of 0.5% per year (or 5% in a decade), then total calls would increase to 1,112 and exceed 3.0 calls per day, as shown in **Table 3**.

**Table 3: Combined fire and EMS population and calls for service projections**

	2020	2030	2040	2050
Total Population	8,374	9,337	10,300	11,265
Total Calls	742.0	940	1,026	1,112
Calls/Day	2.03	2.57	2.81	3.05

<sup>3</sup> Village of Union Grove: Planned Land Use, Possible Development Impacts, part of 2050 Land Use Plan, modified by Village Administrator email dated 5/24/2021.

<sup>4</sup> This analysis does not include separate projections of employment and population. We use population growth rate as a proxy for overall growth and include demand for service generated by non-residential uses.



# UGFYD'S CURRENT OPERATIONS

Armed with a better understanding of the Union Grove-Yorkville Fire Department's demographic pressures and service demands, we now turn to an overview of its existing service framework.

## Departmental staffing and response

The UGYFD employs a part-time chief and half-time administrator but all other employees are paid on an hourly basis or based on a point system under which the rate of pay varies depending on the number of calls and how many people respond. Starting in 2020, the UGYFD also implemented a paid-on-premises (POP) approach in which staff who are paid on an hourly basis are scheduled to be physically located at the station for 8-hour daytime shifts.

Implementing a POP plan is a significant change because with more staff physically located at the department's fire station, response times can be improved and become more predictable. The department's budget includes funding for three POP employees per daytime shift, but actual staffing varies depending on availability of part-time staff. We looked at a recent 20-day period and found that average actual POP staffing was 1.8 per shift.

Under the current framework, when POP staff respond to a call, additional POC responders are paged to the station to assist the response with either a second ambulance (if more than one POC employee responds) or with a pickup truck. This response can sometimes result in four people at a scene, but in instances where the additional POC response is not needed it means that a response unit is at the ready if a second call is received.

There are times when POC responders are not available, in which case second calls must be routed to mutual aid. There have also been occasions when three calls overlap. This shows the importance of mutual aid to UGYFD and all small departments, but it is important to note that response times when mutual aid is required are longer (given that the response must come from a neighboring department) and that this also places a burden on surrounding departments that are also struggling to meet their own service needs.

In terms of nighttime coverage, POC staff are organized into duty rosters from 11 pm to 4 am. This guarantees the availability of a POC response when needed for at least one call. Coverage between 4:00 and 7:00 AM – when the daytime POP employees arrive – can be problematic.

Clearly, the part-time volunteer roster is the backbone of the UGYFD's ability to provide appropriate EMS and fire services. Between 2015 and 2019, the roster ranged from 38 to 41 total volunteers. There was a decline to 31 early this year (likely due to factors associated with COVID-19) but as of May 2021, the roster had rebounded to 36 people. It should be recognized, however, that the ability of a volunteer-based department to effectuate an appropriate response is related not only to the number of people on the volunteer roster, but also to how willing and available those volunteers are to respond to a call at the specific times when calls come in.



**Chart 7** shows the average number of respondents for EMS and fire calls from 2016 to 2020. It reveals a declining trend in the availability of volunteer responders for both types of calls, but a more pronounced decline for EMS.

When we compare UGYFD's staffing levels to peer departments in a later section of this report, we convert personnel expenditures into full-time equivalent staff (FTEs).<sup>5</sup>

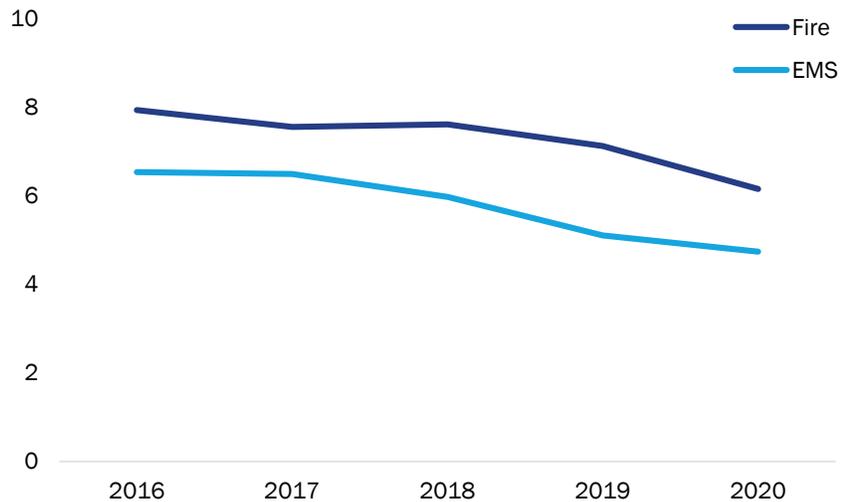
**Chart 8** shows that UGYFD's total FTEs grew from 6.16 in 2017 to 9.22 in 2021 with the addition of POP shifts.

## Response times

The time that it takes for fire or EMS responders to assemble at the station and travel to the scene of an incident once they are dispatched can determine whether lives are saved and property and belongings are salvaged.

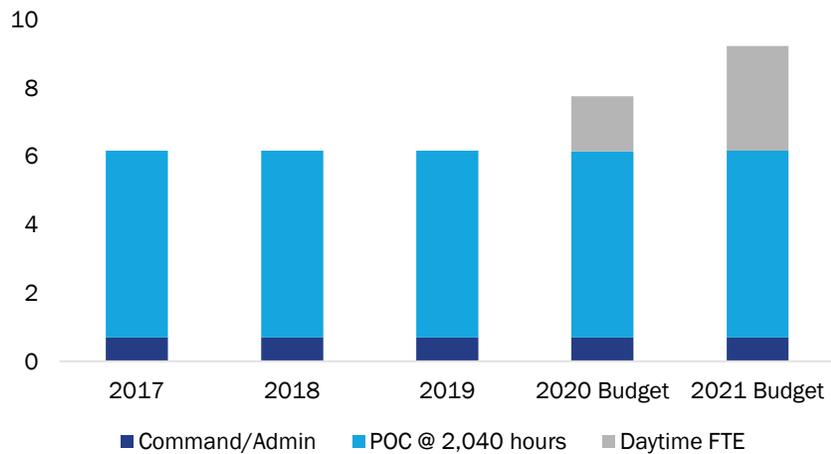
**Chart 9** shows average response times for the UGYFD for the past five years broken out by fire and EMS. Based on our research in other jurisdictions, we would deem these average response times – which are generally in the 9- to 10-minute range – to be good for a department with a combined POP/POC model. It is also notable that the department saw a substantial improvement in 2020, which likely is attributed to the implementation of POP daytime shifts.

**Chart 7: Average number of respondents to fire and EMS calls**



**Chart 8: Department FTEs**

(Budgeted personnel expenditures are adjusted to reflect actual 2020 payroll)

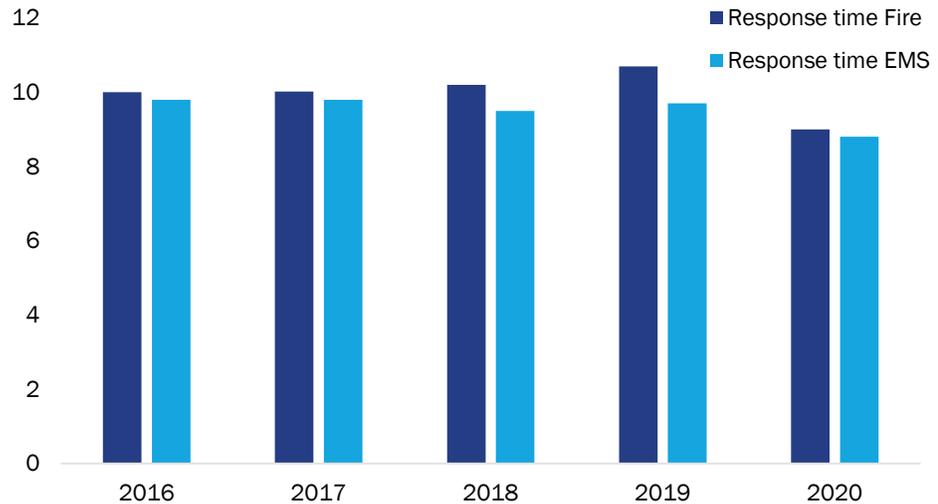


<sup>5</sup> Salaried employees generally are employed at a certain FTE measure (e.g. 50%), but POC compensation varies depending on hours worked. To measure POC staffing levels on an FTE basis, we divide total POC salary expenditures by \$15/hour to derive a total number of hours. These hours are then converted to FTE by dividing by 2,040 hours (note that a full-time career fire department employee typically works 2,940 hours but on a POC model we use a more standard 2,040 hours).



For further context, the Wisconsin Department of Health Services reported that the average EMS response time across all agencies for 2015 (measured as the time from dispatch to arrival on the scene) was 8 minutes and 6 seconds. The American Medical Association found that suburban areas with populations of 2,500 to 50,000 average 7.7 minutes from dispatch to arrival on scene. Rural areas with populations of less than 2,500 average 14.5 minutes.

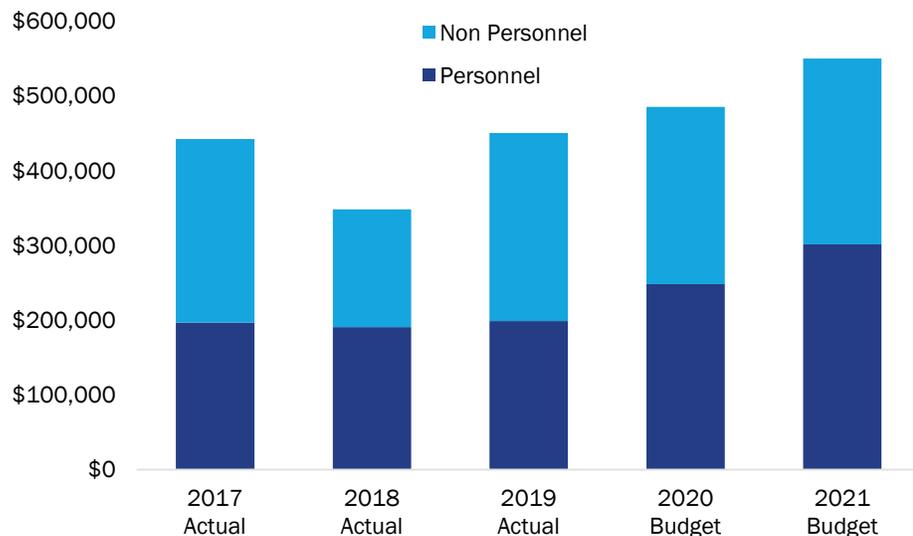
**Chart 9: Fire and EMS average response times**  
(from dispatch to arrival on scene)



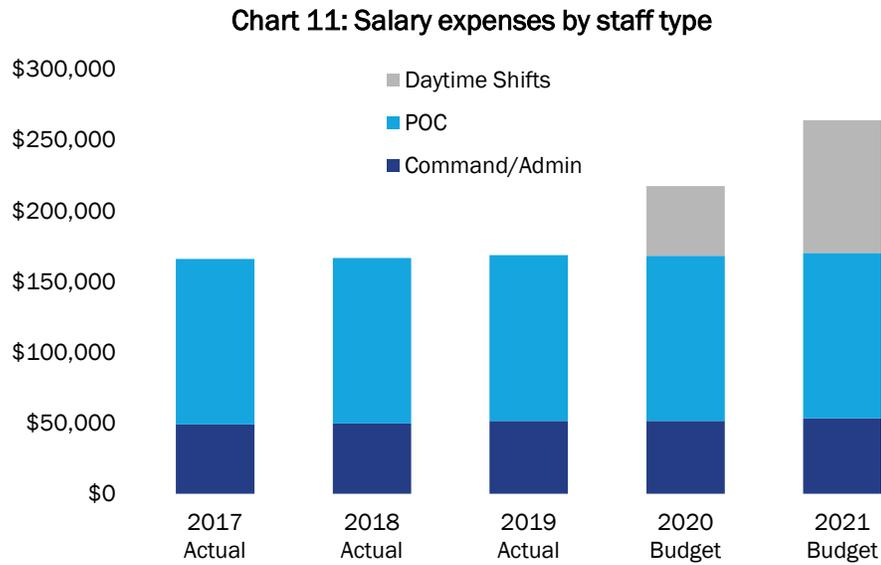
## Departmental spending

UGYFD’s operating budget in 2020 was \$550,211. As shown in **Chart 10**, operating expenditures have shown a steady upward trend, increasing by 24% since 2017. While not shown in the chart, ambulance revenue is an important source of revenue to offset operating expenditures for any department that provides EMS. The 2020 and 2021 budgets assume \$225,000 in ambulance reimbursement, or \$385 per run. Consequently, net budgeted operating expenditures in 2020 were approximately \$325,000.

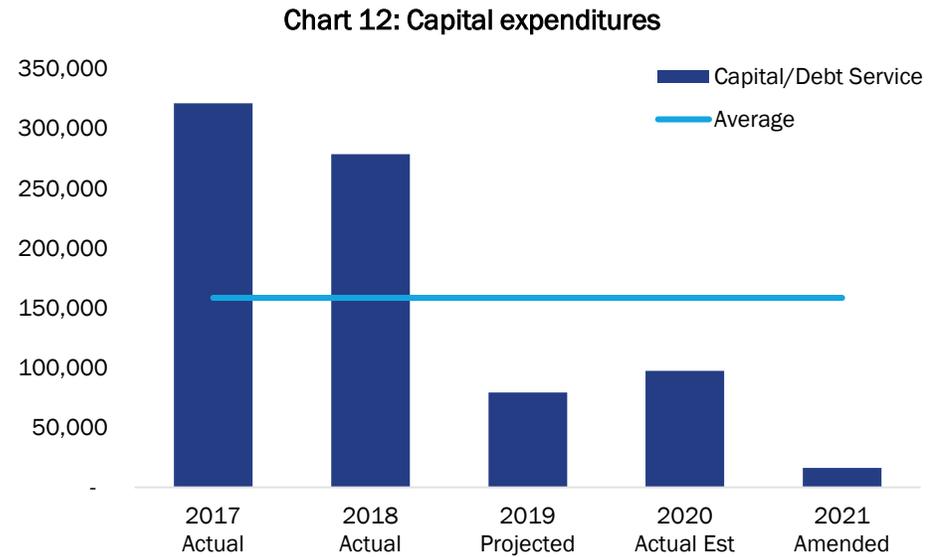
**Chart 10: Departmental operating expenditures**



The recent growth in expenditures in 2020 and 2021 is tied to increased costs related to the new daytime POP shifts. **Chart 11** breaks down salary expenditures by the different types of staff and illustrates that point.



UGYFD’s capital expenditures have varied from year to year depending on vehicle replacement needs, as shown in **Chart 12**. Over the past five years, capital expenditures have averaged \$158,000 annually, or almost 30% of operating expenses.



Most capital expenditures are linked to apparatus, although some also are tied to fire

station needs. **Table 4** shows UGYFD is well supplied with apparatus given its call volume (the ladder truck is jointly owned with Kansasville). In general, ambulances have a useful life of 10 years, which suggests two of the three ambulances are due for replacement. Engines have a typical useful life of 20 years, which means that Engine 322, acquired in 2006, will need to be replaced within the next five years. Engine 324 was replaced earlier this year.

**Table 4: UGYFD apparatus**

Apparatus Number	Apparatus Type	Year Acquired
332	Heavy Rescue	2002
324	Engine	2021
322	Engine	2006
351	Ladder	2003
361	Tanker	2015
343	Command	2012
333	Ambulance	2010
334	Ambulance	2018
335	Ambulance	2005

With regard to UGYFD’s station, it has room for all of the current apparatus although it is a tight fit, according to the chief. If UGYFD moves to a 24/7 shift staffing model, then the station would require renovations to accommodate overnight staffing since it only has a single sleeping room. There are no locker rooms for staff and the only shower is in the men’s bathroom.



## SUMMARY: THE CURRENT STATE

Our analysis of the Union Grove-Yorkville Fire Department's current and projected service demands, staffing model, and apparatus indicates that this is a well-equipped department that enjoys close working relationships with its neighboring departments and that has been able to maintain a relatively high level of fire and EMS services for a community its size. That ability, however, has been challenged by growing call volumes and an over-reliance on paid-on-call staff, which in recent years has necessitated a shift to paid-on-premises staffing and increased annual expenditure budgets.

Because it is anticipated that call volumes will continue to grow, additional movement toward "shift staffing" at the UGYFD station at a higher cost is likely to be necessary. A dilemma for Union Grove and Yorkville leaders is that filling shifts with part-time volunteers – whether POP or POC – is likely to pose growing recruitment and retention challenges, while turning to a full-time staffing model may be cost prohibitive.

Finally, while the department's average response times are respectable, they are reflective of a part-time staffing model and could potentially be improved with an expansion of full-time staff if that is what residents desire. Also, while the current fleet of apparatus is sufficient, two of the department's three ambulances are beyond a typical useful life, and replacement of the ladder truck, heavy rescue, and one engine are likely to be required within the next five years. In light of these factors, consideration of merging with one or more neighboring departments may be merited as a means of sharing the cost of both operational and capital enhancements.

In the next section of this report, we provide further context for UGYFD stakeholders by exploring how peer fire departments in other Wisconsin jurisdictions with similar populations and call volumes are staffing and organizing their departments.



# COMPARISON WITH PEER DEPARTMENTS

There are at least 700 fire departments in the State of Wisconsin<sup>6</sup> of various sizes and operational frameworks. In an attempt to identify departments that are comparable to UGYFD, we searched for those with a similar geographic coverage area and with call volumes and service populations that are close to our 2050 projections for UGYFD. Given the substantial amount of growth projected for the Union Grove-Yorkville area, this approach allows us to conduct our peer comparisons based on UGYFD’s potential future needs as opposed to its current situation.

We found several smaller urban departments with similar call volumes, but they serve relatively small geographic areas with much higher population densities than the area served by UGYFD. At the other extreme, we identified several departments in rural areas with similar call volumes but service areas that are three or four times larger geographically than UGYFD’s.

We originally surveyed 15 departments that seemed potentially comparable to UGYFD to learn more about their staffing and service characteristics. We also reviewed our previous or ongoing research and identified three other departments with similar characteristics (Somers FD, Cedarburg FD, and Milton FD). After survey responses were received, we narrowed the list and conducted follow-up interviews with chiefs before settling on the six departments presented here. The six are not perfect matches, but they are relatively similar and do offer a range of operational models and cost structures that should be instructive to policymakers and citizens.

**Table 5** shows the six departments and how they compare with UGYFD in terms of service area, projected 2050 service population, population

**Table 5: Peer Department Characteristics**

	Service Area (sq. miles)	Service Population	Population Density	Calls for Service
<b>UGYFD</b>	<b>36.2</b>	<b>11,265</b>	<b>3.08</b>	<b>1,112</b>
City of Burlington FD	40.3	17,000	2.37	1,773
Cedarburg FD	29.5	18,153	1.63	1,162
Milton FD	90.0	11,523	7.81	927
Mount Horeb FD	131.9	12,500	10.55	1,292
North Fond du Lac FD	90.7	11,670	7.78	1,235
Somers FD	29.2	9,840	2.97	1,162

density, and projected 2050 calls for service. Data in this section are derived from the survey responses of each department or our previous work.

With the exception of the Somers FD, all of the comparable departments operate out of only one station (Cedarburg owns a second station but typically only uses it during special events or for major incidents). Some are licensed at a paramedic level while others are licensed at advanced emergency medical technician (AEMT), and all provide ambulance transport services. In terms of fire services, all

<sup>6</sup> Based on membership of the WI Fire Chiefs Association



provide water rescue, extrication, inspections and fire investigations, while all but two provide hazardous materials control.

Both our previous work and the scan we conducted for this analysis show that over time, many small fire departments follow a similar progression that begins with a volunteer model but transitions to more advanced staffing and operational models as service demands change and grow. These operational models are not mutually exclusive and many departments utilize more than one staffing plan at the same time. The basic models we have observed in Wisconsin can be summarized as follows:

**Volunteer** – This model is most common in rural areas with low call volumes and where there is a strong commitment to volunteerism and community service. While volunteer models for fire protection services are common, the addition of EMS makes this model difficult to sustain. EMS calls are much more frequent and may strain a department with a dispersed and insufficient volunteer roster. EMS personnel also have additional licensing and training requirements that can be a significant burden for true volunteers.

**Paid on Call** – As discussed in the previous section, this model relies heavily on part-time responders who are paid either hourly or per call and who typically are expected to respond to all fire calls and at least a portion of EMS calls. The sustainability of this model depends on whether the department can maintain a sufficient roster of active POC members who are available to respond during all times of day. This can be particularly challenging during weekdays, when they may have other employment commitments but when call volumes are highest. Also, citizens must be willing to accept longer response times (albeit at a lower cost) since responders must be called into the station to staff required apparatus.

**Paid on Premises** – When calls for service exceed the range of 2.5 to 3.0 per day, most departments will find a POC model difficult to maintain. At that rate, there will be times when two calls must be responded to simultaneously. Also, with a call volume of that magnitude, policymakers and the public may desire better response times than can be achieved with a strictly POC model. By employing part-time staff at station locations either during the day or at all hours, the department can provide a timelier and more reliable response. This model still typically needs a POC component to respond to fires and larger incidents, as well as to field a response when two or more calls arrive simultaneously.

**Combination Department** – This model combines the use of POC staff with shifts at station locations that are staffed with full-time firefighter/EMS responders (some use of POP staff also may be mixed in). Often the use of POC staff only is required for fires and times of heavy call volume; EMS calls typically can be handled by full-time staff, including simultaneous calls when at least four responders are working on a shift.

**Career Department** – This is a department staffed exclusively with full-time, career employees. Because of the cost, this model is typically used only in jurisdictions with heavy call volumes and service populations that typically exceed at least 15,000 to 20,000.

## City of Burlington Fire Department

The City of Burlington FD provides EMS (at the AEMT level) to both the City and Town of Burlington in western Racine County as well as fire protection services to the city. The Town of Burlington has its own volunteer fire department but turned to the city department for EMS on a contractual basis in January 2020 (costs for EMS are allocated between the two jurisdictions based on proportional calls for service). The Burlington FD also maintains automatic aid agreements with the towns of Burlington and Rochester for fire calls.

Burlington is included in our peer analysis in light of its close proximity to Union Grove/Yorkville in western Racine County. While the two departments have similar service areas in terms of geography, Burlington's has a higher population and consequently more calls for service.

The City of Burlington FD is a combination department that includes career, POP, and volunteer staff. The department has nine full-time positions including the chief, a fire inspector, and an administrator (both the chief and inspector respond to calls). It also maintains a roster of 22 part-time firefighter/EMTs who are paid to work at the fire house on either 12- or 24-hour shifts, equating to 9.0 FTE. A 35-person roster of volunteers also is used to augment the department's response to fire calls. Volunteers respond to any fire call including alarms, accidents, etc.

The department's full-time and part-time staff allow for four firefighter/EMTs on shifts at the fire house on a 24/7 basis. Shift staffing during daytime hours increases to six with the inclusion of the chief and inspector. A typical response to a call involves an engine, ambulance, and command car, with two responders each on the ambulance and engine.

The City of Burlington FD's robust shift staffing allows it to maintain strong average response times. In 2020, the average response time for EMS calls (from dispatch to arrival on the scene) was 4:55 in the City of Burlington and 7:46 in the Town of Burlington. The average response time for fire calls in the city was 4:54.

The City of Burlington FD's call volume is about two thirds higher than UGYFD's but its expenditure budget is more than three times higher. The calculation of per capita cost adjusts for the difference in service population, but this measure is still double the per capita cost of UGYFD. Burlington's higher cost structure – and substantially lower response times – are linked to its combination

**Table 6: Snapshot of Burlington FD vs. UGYFD<sup>7</sup>**

	UGYFD	Burlington FD
<b>Basic Comparison</b>		
Service Area (sq miles)	36.2	40.3
Service Population	11,265	17,000
Calls for Service (EMS)	928	1,408
Calls for Service (Fire)	184	365
Total FTEs	9.22	18.04
<b>Financial Indicators</b>		
2021 Budget	\$550,211	\$1,637,871
Per Capita Budget	\$47	\$96
<b>Apparatus</b>		
Engines	2	2
Trucks	1	2
Ambulances	3	2
Rescue Vehicles	1	0

<sup>7</sup> Service population and calls for service data for UGYFD in this and subsequent snapshot tables are based on our 2020 estimates. Calls for service data for peer departments are from 2020 unless otherwise noted. Also, as far as we can tell, budget figures for the departments do not include debt service.



staffing model that mixes full-time responders with POP staff (as well as volunteers for fire response). In terms of apparatus, the Burlington FD has an additional truck, but two fewer ambulance/rescue vehicles than UGYFD.

## Milton Fire Department

The Milton FD operates as a joint district between the City and Town of Milton in Rock County. Its service area also includes portions of two other surrounding towns that contract for service from the department. The department shares a chief with the City of Janesville, and city officials are currently considering a range of reorganization options that may include formally merging with the Janesville FD. WPF is assisting Milton in a financial analysis of those options.

It is important to recognize that the current service model used by the

Milton FD is likely to change dramatically after 2021. The driver for that change is the department's inability to sustain a part-time staffing model and the inability (so far) of city and town leaders to agree on an acceptable operating framework and cost allocation methodology for a new and more expensive model.

The Milton FD is a combination department, with 3.0 career firefighter/paramedic FTEs and 11.24 POC FTEs. Administration and command functions account for the additional 1.5 FTEs shown above.

The department has between three and five responders working shifts at its station at all times. One shift is staffed with a full-time, career employee and POP staff make up the remainder of each shift. The department maintains weekend staffing at five per shift. While not always possible, the department strives to maintain the capacity to send out both a two-person ambulance and an engine at all times, with either two or three on the engine (three on weekends).

With dispatching performed by the Rock County dispatch center – which is able to track vehicle locations for participating fire departments – the Milton, Janesville, and Beloit departments are able to operate under a “closest unit responds” model. Just as it sounds, by mutual agreement dispatchers will send either Janesville, Beloit, or Milton resources to an incident, depending on which unit is closest.

While the Milton FD is similar to UGYFD in terms of its service population and call volume, its total operating cost and per capita service cost are more than twice those of UGYFD. The difference is attributed both to the use of career staff and a higher service level, as MFD staffs its station on a 24-hour basis with three to five responders compared with daytime-only coverage by the UGYFD at an

**Table 7: Snapshot of Milton FD vs. UGYFD**

	UGYFD	Milton FD
<b>Basic Comparison</b>		
Service Area (sq miles)	36.2	90.0
Service Population	11,265	11,523
Calls for Service (EMS)	928	828
Calls for Service (Fire)	184	99
Total FTEs	9.22	15.74
<b>Financial Indicators</b>		
2021 Budget	\$550,211	\$1,350,443
Per Capita Budget	\$47	\$117
<b>Apparatus</b>		
Engines	2	2
Trucks	1	1
Ambulances	3	2
Rescue Vehicles	1	0



average of 1.8 responders per shift. The Milton FD’s fleet of apparatus is similar to UGYFD’s although Milton fields one fewer ambulance and no rescue vehicles.

The department’s estimated 2020 average response times are 6:46 for EMS and 7:53 for fire. These are based on a sampling of 2020 calls and reflect the time from dispatch to arrival on-scene.

## Cedarburg Fire Department

The Cedarburg FD, located in Ozaukee County, is a mostly POC and volunteer department though it has recently created two new full-time positions. POC staff are used for EMS only while true volunteers respond to fire calls. The Cedarburg FD’s call volume is similar to UGYFD’s but it has higher density and service population.

The department serves the City of Cedarburg and the Town of Cedarburg (by contract). It is licensed as AEMT and relies on neighboring Thiensville for advanced life support and paramedic intercept. The department has two stations – one each in the city and town – but the town location is used infrequently during festivals or for major incidents.

The department’s full-time salaried employees are a fire inspector and a deputy chief. The fire chief is a part-time position and also responds to calls. The deputy chief – whose position was created this year – works a 24-hour schedule, which means he is at the station every third night. The department is authorized to hire another full-time position in July (a firefighter/AEMT, who also will work a 24-hour schedule). The department also has a volunteer assistant chief whose full-time job is with the city’s the public works department and two other DPW employees assist on fire calls during the day. POC wages equate to 1.5 FTEs.

The Cedarburg FD benefits from a long tradition of volunteerism and a robust volunteer organization. On its website, the Cedarburg FD describes itself as a “volunteer department made up of your neighbors, your friends and your relatives.” Volunteers are paid \$30 per call for any EMS response but they are not paid for training. Fire response is entirely voluntary.

Cedarburg FD was one of nine Ozaukee County departments that recently asked the WPF to research service and funding levels and to review potential service sharing options. Like the Milton FD, the Cedarburg FD is finding it difficult to maintain volunteer rosters and is seeking new ways to meet service demands, including the addition of more full-time positions on top of the two recently added.

The department’s average response times in 2020 were 11:30 for EMS calls and 11:45 for fires. The addition of even one full-time position so far this year has enabled it to lower response times.

**Table 8: Snapshot of Cedarburg FD vs. UGYFD**

	UGYFD	Cedarburg
<b>Basic Comparison</b>		
Service Area (sq miles)	36.2	29.5
Service Population	11,265	18,153
Calls for Service (EMS)*	928	906
Calls for Service (Fire)*	184	256
Total FTEs	9.22	5.37
<b>Financial Indicators</b>		
2021 Budget	\$550,211	\$637,084
Per Capita Budget	\$47	\$35
<b>Apparatus</b>		
Engines	2	3
Trucks	1	1
Ambulances	3	2
Rescue Vehicles	1	1

\* The most recent full year of call data we were able to identify for Cedarburg was from 2019.



Depending on available staffing, the deputy chief may respond alone in a command car to initiate medical services. The department also has purchased a new response vehicle that can be taken home by a volunteer AEMT to similarly initiate a direct response and reduce response time.

Because the Cedarburg FD continues to rely heavily on volunteers, its per capita cost is lower than UGYFD's (in fact, it is the only one of the peer departments considered in this report that has a lower per capita cost). Not surprisingly, its average response times also are inferior to UGYFD's. Apparatus levels are higher in terms of engines, but lower in terms of ambulances and rescue vehicles.

## Somers Fire Department

The Somers Fire Department, located in eastern Kenosha County, serves both the Village and Town of Somers. It is the only department in our peer group that fully operates out of two stations and it is licensed at I-12, an intermediate level between AEMT and Paramedic. The department has automatic aid agreements with the South Shore Fire Department in Racine County for highway incidents and with the Town of Paris, which has its own small department staffed primarily with POC employees.

Somers FD is comparable to UGYFD with regard to 2020 calls for service while its service population and geographic area are somewhat smaller. The department is experiencing an increase in call volume, as the chief estimates that 2021 calls will reach 1,500 due primarily to new development in the service area.

The Somers FD is a combination department with eight career firefighter/EMTs and a full-time chief. Somers FD also relies on 7.1 FTEs of hourly employees, some of whom are assigned to shifts. Between its two stations, the Somers FD has between four and five shifts of responders on duty on a 24/7 basis.

The department maintained impressive average response times of about 6:00 for EMS calls and 7:00 for fire calls in 2020. These response times reflect its decision to staff multiple 24/7 shifts at each station.

The Somers FD's higher level of service, measured in both staffing and response times, comes with an annual expenditure budget that is more than three times higher than that of UGYFD at \$1.8 million. On a per capita basis, Somers FD's annual cost is almost four times higher. Its total apparatus count is identical to UGYFD's despite its additional station, but it has one additional engine and does not own a rescue vehicle.

**Table 9: Snapshot of Somers FD vs. UGYFD**

	UGYFD	Somers
<b><u>Basic Comparison</u></b>		
Service Area (sq miles)	36.2	29.2
Service Population	11,265	9,840
Calls for Service (EMS)	928	742
Calls for Service (Fire)	184	420
Total FTEs	9.22	16.06
<b><u>Financial Indicators</u></b>		
2021 Budget	\$550,211	\$1,782,635
Per Capita Budget	\$47	\$181
<b><u>Apparatus</u></b>		
Engines	2	3
Trucks	1	1
Ambulances	3	3
Rescue Vehicles	1	0



## Village of North Fond du Lac Fire Department

The North Fond du Lac FD provides fire suppression services to the Village of North Fond du Lac and EMS to a much larger area including the Village and Town of North Fond du Lac and the towns of Van Dyne, Friendship, Eldorado, and Lamartine. It differs from the other peers in that it does not provide Hazardous Materials Control.

The North Fond du Lac FD It is a combination department that uses full-time, POP, and POC staff. It covers a much larger geographic area than UGYFD but its service population and total number of calls for service are comparable.

The North Fond du Lac FD's total staffing as measured by FTEs is the closest to UGYFD of all the comparable departments reviewed here. Its staffing composition is different, however, as it employs six full-time career firefighter/EMTs on 24-hour shifts and another four POP employees who work approximately 30 hours per week (equating to 3 FTEs). This staffing allows for a minimum of two people on shifts and an increase to four-person responder staffing at the station on weekdays from 7:00 AM to 7:00 PM. During daytime hours, the department sends all four staff on a call – two on an engine and two on an ambulance.

The department also uses POC employees but only to respond to fire calls. Its current POC roster totals 40 people.

The North Fond du Lac FD's average EMS response time was 5:40 and its average fire response time was 7:00 in 2020, which are impressive times especially given the geographic size of the service area. These response times are attributed to the department's commitment to staff 2- to 4-person shifts at the station. Because of this use of full-time and POP staff, the department's budget and per capita expenditures are about 2.5 times those of UGYFD. The North Fond du Lac FD does maintain a smaller fleet than UGYFD, however, with one fewer truck and two fewer EMS vehicles.

**Table 10: Snapshot of North Fond du Lac FD vs. UGYFD**

	UGYFD	North Fond du Lac
<b>Basic Comparison</b>		
Service Area (sq miles)	36.2	90.7
Service Population	11,265	11,670
Calls for Service (EMS)	928	1,091
Calls for Service (Fire)	184	144
Total FTEs	9.22	9.00
<b>Financial Indicators</b>		
2021 Budget	\$550,211	\$1,371,096
Per Capita Budget	\$47	\$117
<b>Apparatus</b>		
Engines	2	2
Trucks	1	0
Ambulances	3	2
Rescue Vehicles	1	0



## Mount Horeb Area Joint Fire Department

The Mount Horeb Area Joint FD (FDMH) is a combination department licensed at the AEMT level. The department's large service area of 132 square miles in Dane County encompasses the villages of Blue Mounds and Mount Horeb and portions of six surrounding towns. It also has automatic aid agreements with some neighboring departments to assist with water tenders in certain parts of the service area.

While FDMH's service area is much larger than UGYFD's in terms of geography, its service population and call volume are similar. With regard to staffing, the department has eight full-time career firefighter/AEMT positions, including the chief. It also maintains an 80-person roster of POC/volunteer employees and interns, equating to 3.6 FTEs.

Career firefighters/EMTs work 47 hours per week including one 24-hour shift. At least one career person is on shift at the station all times. The number of station shifts is highest on weekdays, when the department typically has four to five responders available, including the chief and interns. This allows FDMH to field an ambulance and an engine with up to four people.

On weekends and overnights, shift staffing is limited to one person, and the response model shifts to POC. FDMH assigns 10 volunteers to function as "Fire Officers in Charge" to manage fire response, which is unpaid. EMS responders are paid a small amount per hour that they are available on a pager (between \$1.55 and \$2.35). Overnight shifts are 11 hours and weekend shifts can be longer.

Volunteers are assigned to rescue crews of three to six people to cover both a primary and a backup ambulance. The career responder on shift may respond immediately to an incident or may wait for POC/volunteer responders to arrive, depending on circumstances. At times, volunteer EMS crews and interns may stay in the station overnight, which lowers response times.

FDMH has a 55-member volunteer roster, including 28 who respond only to fires. There are also 15 to 18 who respond only to EMS calls. The remaining volunteers respond to both types of calls.

Response times are not available, although turnout times in 2020 were within two minutes for EMS and seven minutes for fire during daytime weekday hours. Due to the much larger service area, total response times would not be comparable to UGYFD.

As with the other comparable departments considered here, FDMH has a larger budget than UGYFD and higher per capita spending (about twice as much for both). Again, this is attributed to FDMH's

**Table 11: Snapshot of Mount Horeb Area Joint FD vs. UGYFD**

	UGYFD	FDMH
<b>Basic Comparison</b>		
Service Area (sq miles)	36.2	131.9
Service Population	11,265	12,500
Calls for Service (EMS)	928	966
Calls for Service (Fire)	184	326
Total FTEs	9.22	11.56
<b>Financial Indicators</b>		
2021 Budget	\$550,211	\$1,117,100
Per Capita Budget	\$47	\$89
<b>Apparatus</b>		
Engines	2	3
Trucks	1	1
Ambulances	3	2
Rescue Vehicles	1	0



greater use of full-time staff and its larger station shifts. FDMH's fleet has one fewer vehicle than that of UGYFD; it has one more engine, one fewer ambulance, and it does not own a rescue vehicle.

## Summary

Our review of six Wisconsin fire departments that are largely comparable in geographic service area, service population, and call volume shows that UGYFD is an outlier in terms of its absence of full-time staff and the low number of firefighter/EMS responders who are on duty at stations at any given time. Notably, the only peer department that spends less than UGYFD – the Cedarburg FD – has increased its full-time staffing in recent years and the chief has stated that the current operational model is not sustainable and likely will need to include greater use of full-time staffing.

With regard to vehicles, UGYFD's fleet of apparatus is either larger or equivalent to those of the peer departments, although differences would be expected depending on whether the department provides paramedic and ambulance transport services.

The peer departments also may offer some insights into different staffing strategies that may be worthy of consideration by UGYFD irrespective of the question of how many additional full-time staff may be needed. For example, the Cedarburg FD's use of public works employees as fire and EMS responders during weekdays, the distinctions several departments make in terms of fire versus EMS response capacity at various times of day, and the use of full-time chiefs or inspectors who can also serve as responders during busy times may be options to consider to hold down costs while boosting staffing and service levels.

Finally, as discussed earlier, EMS and fire operations are distinct in many ways. Several of the departments described here staff 24-hour shifts at stations to respond to EMS calls while approaching fire response with a volunteer or POC operational model.

*Note: In our budgetary review, we observed that the revenue from ambulance transports reported by UGYFD appears low in comparison with other departments. UGYFD's 2020 budgeted ambulance revenues totaled \$225,000, while budgeted amounts for the six peer departments ranged from \$250,000 (Milton) to \$375,000 (Mount Horeb). It is unclear if this discrepancy is due to the amount of the ambulance fee itself, the ratio of calls that require transports versus non-transports, ability to pay, or some other factor. However, this finding suggests the need for more detailed consideration and perhaps a review of ambulance rates the next time they are updated by the department.*



# CONCLUSION

Officials from Union Grove and Yorkville reached out to the Wisconsin Policy Forum earlier this year as they contemplated the future of fire response and EMS in their communities. Among their key questions were whether the Union Grove-Yorkville Fire Department's long-time operational framework can be sustained in the face of growing challenges with recruitment and retention of part-time fire and EMS responders; and what it will take to appropriately staff and equip the department to meet the future service demands of their citizens.

To help answer those questions, we analyzed recent trends with regard to UGYFD service demand and response, staffing, and spending and explored the operational frameworks of a half-dozen peer Wisconsin fire departments for comparative purposes. In doing so, we have come up with a couple of clear conclusions:

1. UGYFD is an outlier when compared to all but one of the peers with regard to its continued exclusive use of part-time responders; and
2. Notwithstanding the question of whether a part-time model can be sustained from a human resources standpoint, any desire to improve response times and otherwise enhance service levels as call volumes grow will require a move toward greater use of full-time staffing.

It is important to recognize that our peer group of six departments is a small sample size considering the nearly 700 fire departments that exist in Wisconsin. We also acknowledge there may be some selection bias given that we leaned toward departments with which we were already familiar from previous analysis.

Nevertheless, our experience working with fire departments in at least a dozen Wisconsin counties reveals that most departments with heavy reliance on part-time staff are experiencing challenges that are similar to UGYFD's and are considering or have already moved toward combination or full-time staffing models. This particularly appears to be the case when departments approach an average volume of three calls per day (which is currently the case for UGYFD), as relying on POC responders to field that type of volume can be quite difficult. Such difficulty especially occurs during weekdays, when many members of the POC roster would have to be called away from their full-time employment to respond to a call.

A key question is how quickly the move toward a career staffing model should occur and what is the proper balance between POC, POP, and full-time staff. The answer to that question should first and foremost take into account whether elected officials and citizens wish to improve response times and enhance other elements of service quality. Inevitably, however, it will also come down to cost.

While it is likely that an immediate move to mostly full-time staffing would be cost prohibitive for UGYFD, there may be several opportunities to pursue hybrid strategies and reduce cost. For example, as noted throughout this report, several similar-sized departments use full-time, POP, and POC or volunteer models simultaneously. Indeed, our experience analyzing other departments shows that a gradual progression from mostly POC staffing to some POP (as has already occurred at UGYFD) to a combination of part-time plus full-time staff is a common one. Even the addition of a few



career positions can serve as an anchor to provide a timelier and more reliable response, particularly for EMS calls that often require only two responders.

In addition to considering the appropriate mix of staff, UGYFD could consider staffing strategies used in other locales to improve the reliability of response. Those might include mandating or incentivizing through greater pay that part-time staff agree to be scheduled for specific times of day or night for either POP or POC service, or recruiting POC staff from other village departments to guarantee a higher level of availability and proximity for weekday calls.

Ultimately, however, the widespread continued use of POC/POP responders will depend on the department's ability to maintain a sufficient roster. That challenge, as we have discussed, is growing more difficult as societal factors have reduced the pool of people who are willing to become credentialed, train, and serve as fire and EMS responders.

While we cannot determine when that reality may leave UGYFD with little choice but to move aggressively to a career model, we would strongly suggest that if that time comes they consider a range of options for doing so. Those might include exploring a merger with similarly challenged neighboring departments as a means of reducing the number of full-time staff that are collectively needed and sharing costs, or considering potentially more controversial alternatives like contracting with a private agency for EMS or with a larger department like South Shore for the full range of fire and EMS services.

Also, it should be noted that the decision on an appropriate staffing model may impact decisions regarding the size and composition of the apparatus fleet as well as the potential need for station improvements or replacement. In particular, a move to 24/7 staffing at the station would require appropriate and gender-specific sleeping quarters and facilities. Additionally, improvements at the station, such as a gym area or rec room, can create a welcoming environment for volunteers and enhance POC engagement and recruitment. Depending on the staffing model selected, UGYFD may wish to reach out to one or more of the peer departments cited in this report, as their station characteristics could provide useful perspective on station improvements that may be required for UGYFD.

Overall, we hope this research and analysis provides Union Grove and Yorkville officials with helpful context that they can use to assess future steps to ensure an appropriate level of fire and EMS for their citizens. We would be happy to assist further in any subsequent research and analysis that might be required.

